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ABSTRACT

The purpose of a mass media study was to (1) identify mass media types (patterns of exposure to mass media content) among seventh graders, high school juniors, and adults in a given geographic area; (2) show similarities and differences in the mass media types isolated for these three age groups; (3) pinpoint demographic variables most strongly related to each of the identified types; and (4) ascertain if these types are adequately described by demographic variables, or whether they represent distinct patterns of mass media exposure. All subjects kept a daily diary of their exposure to television, radio, recordings, newspapers, and magazines for one week, and then completed a questionnaire designed to obtain demographic information and information about exposure to books and motion pictures. The Q-type factor analyses allowed the identification of various mass media types, such as action TV viewers, newspaper opinion readers, black "romantics," female adolescent readers, horror film fans, and so forth. Using demographic variables as independent variables, regression analyses were performed to identify the strongest predictors of the mass media factors produced by the Q-type factor analyses. Results of analyses showed that sex and age were the most frequent significant predictors, that mass media types were characterized by exposure to type of content rather than medium, and that the types identified in this study were not adequately explained by the demographic variables used in the regression analyses. (Tables of findings are included). (NKA)

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MASS MEDIA TYPES:

THREE Q-ANALYSES OF MASS MEDIA EXPOSURE

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ABSTRACT

The most common means of identifying mass media consumers has been by the use of demographic variables. In this study, the researcher used Q-type factor analyses to identify types of mass media consumers. Three analyses were run for exposure to 90 categories of content within seven mass media (television, motion pictures, radio, recordings, newspapers, magazines, and books). Separate analyses were run for three groups of respondents (116 seventh graders, 107 juniors, and 121 adults) located in the Waterloo, Iowa area.

The Q-type factor analyses produced the following types: for the seventh graders, "Female" Readers, "Male" Newspaper Readers, Action Television Viewers, Newspaper Opinion Readers, Country Radio Listeners/Action Avoiders, Television Viewers, "Male" Film Fans, and Non-News Readers; for the juniors, Cable Television Watchers/Newspaper Avoiders, Newspaper Readers, "Black" Romantics, Prototypic Adolescent "Males," Film Fans, Non-Fiction Television Viewers, "Female" Adolescent Readers, and Entertainment Viewers; and for the adults, Newspaper Avoiders, Newspaper Readers, Talk Show Fans, Horror Film Fans, Country Listeners, Action Viewers/Readers, Entertainment Watchers, Sports Fans, Non-Fiction Readers, and Television Viewers.

Using demographic variables as independent variables, regression analyses were performed to identify the strongest predictors of the mass media factors produced by the Q-type factor analyses. Sex and age were the most frequent significant predictors.

MASS MEDIA TYPES:

THREE Q-ANALYSES OF MASS MEDIA EXPOSURE

Americans live in a mass media environment that is potentially both rich and diverse. The average citizen has the necessary monetary resources and language skills to use the major mass media--television, radio, recordings, motion pictures, newspapers, magazines, and books--and to consume the wide variety of content available in them. Since the amount of media content is vast relative to the time available for media use, people must continually select from this mass media content. No two people will make exactly the same selections. Thus, each person's¹ exposure to the mass media is unique.

However, it is likely that among any large population in a similar mass media environment, there are similarities among certain people. Individuals with a similar pattern of exposure to the mass media can be described as a particular mass media type. Given this assumption, one question naturally arises: What kinds of mass media exposure types are there?²

By far the most common approach to identifying individual differences in mass media exposure has been to relate differences in media exposure to demographically defined groups. The mass media exposure patterns, particularly television exposure, of people of different ages, educational levels, socio-economic statuses, household sizes, etc. frequently have been compared by mass media researchers.

In some cases, this research has produced clear distinctions among different demographic groups. However, some of this research has produced contradictory and inconclusive results. In a recent summary of

research on children's uses of the mass media, Wartella et al. (1979: 43) concluded that "even for descriptive purposes the findings regarding correlates of media use [exposure] are contradictory." For example, "heavy viewers are found among the bright, the low SES, the middle class, and blacks. For each of these findings one can find opposing results (Wartella et al., 1979: 42)." Comstock et al. (1978) came to a similar conclusion about television exposure and demographic variables. They suggested that because television is so heavily used in our society, the differences related to demographic categories have been greatly reduced. Finally, Avery (1979: 59) found that sociological and demographic variables were more useful in differentiating the mass media exposure of adolescents than the mass media exposure of children, but he added that "the literature is not void of contradictions."

The popularity of demographic variables for mass media exposure research appears to stem from their traditional use in sociological research, as well as from their relative ease of measurement, rather than from their theoretical relationship to mass media exposure. Typically, the relationship between a demographic variable and mass media exposure has been explained after the relationship was discovered, rather than offered as evidence to support a priori theoretical notions as to why people differ in exposure.

I do not discount the utility of demographic variables in studying mass media exposure, but wish to demonstrate that groups of mass media consumers (mass media types) identified by their similar patterns of exposure to mass media are not isomorphic with the groups identified by demographic variables.

In addition, I would suggest that groups identified by their common patterns of mass media exposure (mass media types) are more closely

related to specific media effects (changes in attitudes or behaviors) than are groups identified by demographic variables. Thus, the identification of mass media exposure types should more clearly isolate the individuals who are most likely to be affected by concentrated exposure to specific mass media content. This idea is implicit in the writings of several major mass communication scholars.

Lippmann's (1921) classic analysis of how mass media form the pictures in our heads of the reality that we cannot directly experience suggested that the types and amount of mass media which we use may determine in good part how we view the world. People who habitually consume only certain kinds of mass media content severely limit the sources of information from which they build their pictures of reality.

In his description of the mosaic model of mass communication effects, Becker (1978: 44) argued that from an almost infinite collection of information increments (or bits) concerning any topic, we consume only a small amount:

These information increments can come from any of a very large number of sources, so large a number that, for all practical purposes, it also can be treated as infinite. However, at any given moment, only a limited number of sources, if any, are making any of the relevant increments of information available to us.

The identification of mass media types will isolate the sources of information increments available to these types within a common mass communication environment.

The cultivation effect of television proposed by Gerbner and Gross (1976) and others suggested that habitual patterns of exposure will affect attitudes. If, as Gerbner and Gross argued, television effects come not from a single exposure, but from the repeated presentation of certain images that we come to view as reality, then it seems reasonable

that the patterns of exposure exhibited by various mass media consumers must affect the realities that they construct.

Finally, Schramm's (1954: 125) analogy between the formation of stalagmites and the effects of communication on personality development illustrates how different mass media types might gradually develop different personalities:

The stalagmite builds up from the calcareous residue of the water dripping on it from the cave roof. Each drop leaves only a tiny residue, and it is very seldom that we can detect the residue of any single drop, or that any single drop will make a fundamental change in the shape or appearance of the stalagmite. Yet, together, all these drops do build the stalagmite, and over the years it changes considerably in size and somewhat in shape. . . . This personality pattern we are talking about is, of course, an active thing--not passive, like the stalagmite--but still the similarity is there. When we introduce one drop of communication into a person where millions of drops have already fallen and left their residue, we can hardly expect to reshape the personality fundamentally by that one drop. If we are communicating to a child, it is easier, because the situation is not so firmly fixed. If we are communicating in an area where ideas and values are not yet determined--if our drop of communication falls where not many have fallen before--then we may be able to see a change as a result of our communication.

I am suggesting that we begin to identify the different streams (habitual patterns of mass media exposure) that form distinct stalagmites (personalities, attitudes, behaviors, or levels of knowledge).

A factor analysis of the mass media exposure of a particular group of people could identify these habitual patterns of exposure. It could reduce a large number of media exposure variables, representing respondents' exposure to many types of media content, to their underlying patterns of exposure.

Although numerous correlational studies have explored the relationships among exposure to various media (Baillyn, 1959; Samuelson et al., 1963; Anast, 1966; Greenberg and Kumata, 1968; Greenberg, 1973, Tan and Vaughn, 1976; Atkin, 1978; Robinson, 1980; Robinson, 1981; for

example), few researchers have used factor analysis to isolate patterns of exposure common to particular groups of individuals. Most of these studies concentrated on exposure to news, either in newspapers alone or in newspapers and electronic media (Anast, 1961; Atwood, 1970; Bornholdt, 1966; Clarke, 1968; Grunig, 1979; Ryan, 1976; Stempel, 1967).

Despite differences in respondent ages and in the headlines or news stories used, there is some consistency in the kinds of factors isolated in the seven studies of news content. Five of the seven found a factor associated with public affairs information (Bornholdt, 1966; Clarke, 1968; Grunig, 1979; Ryan, 1976; Stempel, 1967), a human interest/mishaps factor (Anast, 1961; Atwood, 1970; Bornholdt, 1966; Clarke, 1968; Stempel, 1967), and a science and/or health factor (Anast, 1961; Clarke, 1968; Grunig, 1979; Ryan, 1976; Stempel, 1967). In addition, two studies reported an entertainment factor (Anast, 1961; Stempel, 1967), an economics factor (Stempel, 1967; Ryan, 1976), and a sports factor (Bornholdt, 1966; Clarke, 1968). Thus, factor analytic studies of news content seem to point to at least three common factors: a public affairs factor, a human interest factor, and a science and/or health factor.

Although of value to those studying news audiences, an obvious limitation of these seven studies is that they differentiate only among patterns of exposure to varieties of news content. If we assume that non-news media content also has some influence over people, then it becomes imperative to analyze that content as well.

Five studies have examined both news and non-news media content (Boyd, 1978; Dunn, 1975; Martin et al., 1976; McIlwraith and Schallow, 1983; McIlwraith and Josephson, 1985). But each of the five used a different set of exposure items, so it is difficult to compare the final factors. One common result was noted. Three of the studies (Dunn, 1975;

Martin et al., 1976; McIlwraith and Schallow, 1983) produced media factors that were characterized by exposure to a particular medium rather than to a particular type of media content. Dunn isolated radio users, television users, and newspaper users. Martin et al. found mostly media specific factors for the low socioeconomic group in their study. And McIlwraith and Schallow isolated television users, radio users, and print information users.

These factor analytic studies of exposure to news and non-news content are limited in three respects. First, the studies that included non-news media content surveyed either non-U.S. residents (Boyd, 1978; Martin et al., 1976; McIlwraith and Schallow, 1983; McIlwraith and Josephson, 1985) or members of a particular U.S. minority group (Dunn, 1975). Thus, the factors identified in these studies might not be descriptive of factors that would emerge in a study of representative U.S. residents. Second, these studies were based on exposure to a limited number of media exposure variables. None of these studies used more than 36 media exposure variables. Thus, much of the diversity available in the mass media was overlooked. Finally, each of these studies surveyed one age group. Thus, they could not compare factors among different age groups. This study addressed these three limitations.

The study addressed four questions:

1. What are the mass media types (patterns of exposure to mass media content) among seventh graders, high school juniors, and adults in a given mass media environment (geographic area)?
2. What are the similarities and differences in the mass media types isolated for these three age groups?
3. What demographic variables are most strongly related to each of

the mass media types identified in the study?

4. Are the mass media types adequately described by demographic variables, or do they represent distinct descriptions of patterns of mass media exposure?

3 METHOD

OVERVIEW

Three groups of respondents (seventh graders, high school juniors, and adults) completed a survey instrument designed to measure their exposure to 90 categories of mass media content available in seven major mass media (television, radio, recordings, motion pictures, newspapers, magazines, and books). The survey instrument measured exposure to television, radio, recordings, newspapers, and magazines for one week; exposure to books and motion pictures for two months; and several demographic variables.

The juniors and seventh graders provided information on seven demographic variables: sex, father's education, mother's education, household size, age, father's occupation, mother's occupation. The respondent's schools provided the measure of academic achievement.⁴

Using the National Opinion Research Center occupational prestige scale, trained personnel coded respondents' father and mother occupations into two parental occupational prestige scores,⁵ and then reduced these two scores to one variable--household occupational prestige--by selecting the higher of the two parental occupational prestige scores.

For the adults, the demographic variables were more descriptive of the respondent and his/her spouse. Thus, respondent's education, spouse's education, respondent's occupation, and spouse's occupation replaced father's education, mother's education, father's occupation, and

mother's occupation. The household occupational prestige score equalled⁶ the larger of the two spouse's occupational prestige scores.

The mass media exposure data was converted into z-scores and entered⁷ into three separate Q-type factor analyses, one for each age group.

These Q-type factor analyses grouped respondents with similar variations in exposure to the 90 categories of mass media content into⁸ mass media factors. Each factor contained two types of respondents (mass media types). The first type represented the respondents with the most positive factor loadings on the particular mass media factor. The second type represented the respondents with the most negative factor loadings. The interpretation of these three Q-type factor analyses answered Questions 1 and 2.

Once these mass media factors were identified, I used stepwise multiple linear regression analyses to evaluate the ability of the demographic variables used in the study to account for the variation in⁹ each mass media factor. In these regression analyses, the demographic variables were the independent (or predictor) variables and the respondents' factor loadings on each factor identified by the Q-type factor analyses were the dependent (or criterion) variables. The interpretation of these analyses answered both questions 3 and 4.

RESPONDENTS

Since the goal of the Q-type factor analysis is to identify unique types within a population, variation in the sample is more important than sample size. As Talbott (1971: 8) notes, in Q "the people sample is quite small and very explicitly and purposively chosen. . .to get representatives of the major patterns or views of the people being studied." The ranges, means, and standard deviations of several demographic variables revealed considerable variation within each of the

three samples.

One hundred and twenty-one adult respondents from Waterloo, Iowa¹⁰ returned completed survey materials. Age ranged from 18 to 65 years ($\bar{M}$ = 38.9, SD = 13.5), education ranged from 8 to 20 years ($\bar{M}$ = 13.6, SD = 2.3), and household occupational prestige ranged from 16 to 77 on a 100 point scale ($\bar{M}$ = 45.8, SD = 14.5). There were 57 men and 64 women.

One hundred and seven high school juniors from two different schools completed survey materials. Fifty nine respondents from Central High School in Waterloo, Iowa completed the survey materials between October 25 and October 29, 1982.¹¹ Forty three respondents from the Price Laboratory School at the University of Northern Iowa completed the survey materials between January 24 and January 28, 1983. For the juniors, academic achievement ranged from 9 to 97 on a 100 point scale ($\bar{M}$ = 55.6, SD = 25.4), and household occupational prestige ranged from 22 to 82 on a 100 point scale ($\bar{M}$ = 47.2, SD = 14.7). There were 50 boys and 56 girls (one missing case).

One hundred and sixteen seventh graders from the Edison Intermediate School in Waterloo, Iowa completed the survey materials between October 25 and October 29, 1982. For the seventh graders, academic achievement ranged from 1 to 98 on a 100 point scale ($\bar{M}$ = 60.5, SD = 26.2), and household occupational prestige ranged from 22 to 72 on a 100 point scale ($\bar{M}$ = 40.5, SD = 10.1). There were 68 boys and 45 girls (three missing cases).

SURVEY INSTRUMENT

The survey instrument had two parts. First, all respondents kept a daily diary of their exposure to television, radio, recordings,¹² newspapers and magazines for one week (Friday through Thursday). Second, all respondents completed a questionnaire to obtain demographic

Information and information about exposure to books and motion pictures.

Diaries and questionnaires were mailed to the adult respondents, timed to arrive at the beginning of the survey week. Written instructions explained how to complete each daily diary and the questionnaire. I dropped respondents from the sample who failed to return the survey materials within five days after the end of the survey week. Demographic information on the adult respondents was recorded by the telephone interviewer during the initial telephone contacts.

The juniors and seventh graders completed the survey materials during the regular school day. Trained personnel administered the the survey materials.

MASS MEDIA VARIABLES

The 90 mass media exposure variables are summarized in Figure 1.

----INSERT FIGURE 1 HERE----

Eighteen mutually exclusive television content variables were developed from all of the television programs which appeared on any of the three local, commercial network affiliates during the survey week, as well as any additional television programs recorded by the respondents. Exposure to each of these variables equalled the total number of half hours spent by the respondent watching programs in that content category during the survey week. ¹³

Seven radio content variables were developed by first assigning each radio station available in the area to one of the seven basic formats. Total exposure to each of the seven radio content variables was equal to the total number of quarter hours of listening recorded by the respondent for stations with that format during the survey week. ¹⁴

In each daily diary, the respondents recorded their exposure to 11 types of recordings. Total exposure to each of the 11 recordings content

variables was equal to the total number of quarter hours of listening recorded by the respondent for that type during the survey week.

I classified all of the films shown in the Cedar Falls/Waterloo area in the two months previous to the survey week into 11 categories of content. Exposure to each of the 11 motion picture content variables was equal to the total number of films in that content category the respondent reported seeing during the previous two months.

The operationalization of the 15 newspaper content variables involved three steps. First, each respondent rated 15 categories of newspaper content based on his or her likelihood of reading this section of the newspaper (where 0=never read, 1=seldom read, 2=sometimes read, 3=usually read, 4=always read). Next, weekly newspaper exposure was calculated by summing daily newspaper exposure for the seven survey days (where 0=didn't read, 1=read 1-5 minutes, 2=read 6-15 minutes, 3=read 16-30 minutes, 4=read 31-45 minutes, 5=read 45-60 minutes, 6=read more than 60 minutes). Finally, the respondent's rating for each content category was multiplied by the respondent's weekly newspaper exposure.

Respondents recorded the five magazines that they read most frequently, in order of preference. Magazine titles were coded into 23¹⁵ mutually exclusive content categories. The operationalization of each of the 23 magazine content variables involved four steps. First, each magazine listed by the respondent was weighted based on its order of preference (the first preference = 5, the second preference = 4, and so forth). Second, the values of all of the magazines listed by the respondent in each content category were summed. Third, weekly magazine exposure was calculated by summing daily magazine exposure for the seven survey days (where 0=didn't read, 1=read 1-5 minutes, 2=read 6-15 minutes, 3=read 16-30 minutes, 4=read 31-45 minutes, 5=read 45-60

minutes, 6-read more than 60 minutes). Finally, the score obtained for each magazine content category was multiplied by the weekly magazine exposure.

Five book content variables were measured by summing all of the books that the respondent reported reading in each book content category during the previous two months.

RESULTS¹⁶

Q-TYPE FACTOR ANALYSES

The results of the Q-type factor analyses are reported in Table 1.¹⁷ Each factor reported in this study split into two types. The first type represented the respondents who were positively associated with that factor, and the second type represented the respondents who were most negatively associated with that factor. Table 1 includes the media content variables that were most descriptive of each type (Z-score + or - 2).

----INSERT TABLE 1 HERE----

Adults

The Q-type factor analysis of the adult respondents' exposure to the mass media content variables produced 5 factors and 10 types.¹⁸ The five factors accounted for 30.8 percent of the variance and had these eigen values: Factor 1 (15.7), Factor 2 (7.6), Factor 3 (5.3), Factor 4 (4.7), and Factor 5 (3.9).

Factor 1 split into Newspaper Avoiders and Newspaper Readers. Newspaper Avoiders were low in exposure to seven categories of newspaper content. Newspaper Readers were high in exposure to seven categories of newspaper content.

Factor 2 split into Talk Show Fans and Horror Film Fans. Talk Show

Fans were extremely high in exposure to television talk programs, and high in exposure to game shows. Horror Film Fans were extremely high in exposure to horror movies and very high in exposure to the most popular theatrical motion picture at the time of the survey, E.T. the Extra-Terrestrial.

Factor 3 split into Country Listeners and Action Viewers/Readers. Country Listeners had high exposure to country music, both on recordings and on radio, and also exhibited high exposure to several other kinds of non-rock audio: MOR radio, total radio news, and classical recordings. Action Viewers/Readers were very high in exposure to several categories of entertainment television: comedy, action/adventure, light drama, and cartoons. They also had very high exposure to action/adventure books.

Factor 4 split into Entertainment Watchers and Sports Fans. Entertainment Watchers were very high in exposure to several categories of film content (action/adventure, teen, science fiction and fantasy, and romantic/comedy) and television game shows. Sports Fans had high exposure to sports content on television and in newspapers.

Factor 5 split into Non-Fiction Readers and Television Viewers. Non-Fiction Readers were very high in two categories of upscale print content: non-fiction books and upscale magazines. They were also high in exposure to religious recordings. Television Viewers were high in several categories of television programming: movies, country music, cartoons, and action/adventure. High exposure to newspaper crossword puzzles was also characteristic of these respondents.

High School Juniors

The Q-type factor analysis of the high school junior respondents' exposure to the mass media content variables produced four factors and eight types. The four factors accounted for 26.9 percent of the

variance and had these eigen values: Factor 1 (11.4), Factor 2 (6.7), Factor 3 (5.7), and Factor 4 (4.8).

Factor 1 split into Cable Television Viewers/Newspaper Avoiders and Newspaper Readers. Cable Television Viewers/Newspaper Avoiders were the highest in their exposure to movies on television, MTV, and religious radio stations. They were the low in their use of four categories of newspaper content, including sports and comics. These respondents consumed large quantities of two of cable television's more popular offerings, movies and MTV, but avoided even the entertainment sections of the newspaper. Newspaper Readers were high in exposure to 9 of 15 categories of newspaper content.

Factor 2 split into "Black" Romantics and Prototypic Adolescent "Males." "Black" Romantics were presumably Black because of their heavy consumption of Black magazines.²⁰ These respondents also had high exposure to prime time soap operas (Dallas, Falcon Crest, etc.), and to romantic novels. Prototypic Adolescent "Males" consumed large amounts of typically male adolescent media content: motor vehicles magazines, newspaper sports, and rock music on radio. In addition, their high consumption of newspaper classified ads may have been tied to an interest in motor vehicles, since classified ads are a major source of information about used cars.

Factor 3 split into Film Fans and Non-Fiction Television Viewers. Film Fans were high in exposure to three categories of films, and to romantic novels. Non-Fiction Television Viewers were television viewers with a distinct preference for five categories of non-fiction television programs: talk shows, sports, news & public affairs, comedy, and country music.

Factor 4 split into "Female" Adolescent Readers and Entertainment

Viewers. "Female" Adolescent Readers had high exposure to female adolescent magazines, celebrity/gossip magazines, news magazines, and popular novels. Their high exposure to dramatic films was linked primarily to a dramatic film with a strong romantic theme, An Officer and a Gentleman. Entertainment Viewers were heavy consumers of television entertainment programming. They were especially high in exposure to four types of entertainment programming: cartoons, situation comedies, daytime soap operas, and action/adventure programs.

Seventh Graders

The Q-type factor analysis of the seventh grade respondents' exposure to the mass media content variables produced four factors and eight types. The four factors accounted for 24.8 percent of the variance and had these eigen values: Factor 1 (10.32), Factor 2 (6.57), Factor 3 (6.35), and Factor 4 (5.46).

Factor 1 split into "Female" Readers and "Male" Newspaper Readers. "Female" Readers were high in exposure to books and films targeted to female audiences. These respondents were very high in exposure to romantic novels, popular novels, dramatic motion pictures, and children's films. "Male" Newspaper Readers were high in exposure to 7 of 15 categories of newspaper content, including sports.

Factor 2 split into Action Television Viewers and Newspaper Opinion Readers. Action Television Viewers were highest in exposure to television action/adventure and human interest programs. Newspaper Opinion Readers were high in exposure to 4 categories of newspaper content, including editorials, and advice columns.

Factor 3 split into Country Radio Listeners/Action Avoiders and Television Viewers. Country Radio Listeners/Action Avoiders were high in exposure to country music on the radio. They were low in exposure to

action/adventure content in two media, television and motion pictures, as well as televised situation-comedies. Television Viewers were high in exposure to a wide variety of television programming.

Factor 4 split into "Male" Film Fans and Non-News Readers. "Male" Film Fans were high in exposure to three categories of film content of particular interest to males, and to MTV, which has a higher percentage of male viewers than female viewers. Non-News Readers were high in exposure to three types of print media content: gossip magazines, newspaper business news, newspaper advice columns. In general, this type of reader avoided any hard news content.

MULTIPLE REGRESSION ANALYSES

The results of the stepwise multiple linear regression analyses run for each of the 13 mass media factors isolated by the three Q-type factor analyses are in Table 2. I labeled each of these 13 factors (dependent variables) with the type most positively associated with the factor and the type most negatively associated with the factor. For example, adult Factor 1 was labeled Newspaper Avoiders versus Newspaper Readers. Only independent variables significant at $p < .05$ are included in Table 2.

----INSERT TABLE 2 HERE----

Age was a significant predictor for three of the five adult mass media factors. In addition, sex was a significant, and strong predictor for two of the five factors; and household occupational prestige was a significant, but weak predictor for three of the five factors.

For the high school juniors, sex was a significant predictor of three of the four mass media factors. No other demographic variable was significant in more than one regression analysis.

For the seventh graders, demographic variables were generally weak predictors of mass media factors. Sex was the strongest predictor in all

four of the regression analyses, and academic achievement was a significant predictor in two of the four analyses.

DISCUSSION

Two limitations on the generalizability of these types should be noted.

First, the respondents in this study came from two neighboring communities in Iowa, and do not reflect regional differences in mass media exposure in the United States. Second, the QUANAL program limited the number of factors or types to 10. This program limitation meant that the number of types isolated by these analyses might be artificially low. However, the types that were isolated were the strongest types (in terms of variance accounted for), and thus are the most clearly distinguished from the rest of population. Despite these limitations, these Q-type factor analyses were the first conducted on exposure to an extensive variety of media content, and the first to use demographically diverse samples selected from three distinct age groups of U.S. residents.

Some of the media types isolated in this study are related to types reported in other studies. Two U.S. studies of media exposure (Atkin, 1978; Polindexter, 1980) and two British studies of media preferences (Himmelweit et al., 1958; Goodhardt et al., 1975) identified groups with particular interest in news content. The Non-News Readers among the seventh graders, the Non-Fiction Television Viewers among the juniors, and the various "Newspaper Readers" types among all three age groups seemed to support the generalization that the consumption or avoidance of news is a distinctive characteristic of some mass media types.

In addition, what Himmelweit et al. (1958) labeled the excitement

type and Goodhardt et al. (1975) called the adventure type emerged in this study. Among the seventh graders, both the Action Television Viewers and "Male" Film Fans were characterized by an interest in action/adventure content, as were the junior Entertainment Viewers and the adult Action Viewers/Readers and Entertainment Watchers.

Some evidence of the sports content type found in several previous studies (Bornholdt, 1966; Clarke, 1968; Goodhardt et al., 1975; McIlwraith and Schallow, 1983) also emerged. The Prototypic Adolescent "Males" type among the juniors and, especially, the Sports Fans type among the adults were heavy consumers of sports content.

The general television factor found by McIlwraith and Schallow (1983) emerged in both the adult and seventh grader Television Viewers and, in a more ambiguous way, in the junior Entertainment Viewers and Non-Fiction Television Viewers.

Finally, the movies factor found by McIlwraith and Josephson (1985) emerged to some extent in all three age groups (Horror Film Fans for the adults, Film Fans for the juniors, and "Male" Film Fans for the seventh graders).

Unlike several previous studies (Dunn, 1975; Martin et al., 1976; McIlwraith and Schallow, 1983), the mass media types were, in general, characterized by exposure to a particular type of content rather than to a particular medium. Eighteen of the 26 types were media "content" types, while only eight were media "specific" types.²¹ This contradictory result is probably due to the the greater number of mass media exposure variables included in this study (90) as compared to previous factor analytic studies that used a maximum of 36 media exposure variables. Thus, this study indicates that people are more frequently identified by their interest in a particular type of media content than by their

interest in a particular medium.

The use of three distinct age groups provided an opportunity to examine how mass media types differ by age. The three Q-type factor analyses all produced three media specific types (newspaper readers, film fans, television viewers) in varying degrees. In addition, the seventh graders and the adults shared a country listener type (Country Radio Listeners/Action Avoiders for the seventh graders, and Country Listeners for the adults), and the seventh graders and the juniors shared a female reader type ("Female" Readers for the seventh graders and "Female" Adolescent Readers for the juniors).

It seems clear that the mass media types identified in this study were not adequately explained by the demographic variables used in the regression analyses. The mean percentage of variance accounted for by the demographic variables in these 13 analyses was 19.6% (14.1% for the four seventh grader analyses, 18.9% for the four junior analyses, and 25.7% for the five adult analyses). Thus, there remained a considerable amount of unexplained variance once the effect of the demographic variables had been controlled for. In short, the mass media types were not isomorphic with the demographic groups.

This study was inspired by the common belief expressed by several mass communication scholars that habitual patterns of media exposure will lead to the development and maintenance of certain attitudes and behaviors. Lippmann's (1971) "pictures in our heads," Becker's (1978) Communication Mosaic, and Schramm's (1954) stalagmite analogy all suggest that the effects of mass media usually come not from a single message, but from the consistent reception of certain images, ideas, or attitudes over a long period of time. Since people differ in the combinations of media they consume, they should vary in the degree to which the media

effect any attitude, belief, or level of knowledge. By isolating the common patterns of exposure to media content, as this study has done, the mass media scholar should be able to more precisely identify the types of media consumers most likely to have a particular media produced attitude, belief, or level of knowledge.

For example, one might expect to find higher levels of political knowledge among the Non-Fiction Television Viewers and Newspaper Readers identified in this study. Or because of heavy media reinforcement of traditional attitudes about women, Action Viewers/Readers might well maintain sexist attitudes about the roles of women in society. Similarly, the Action Viewers/Readers and Horror Film Fans might have more positive attitudes about the use of aggression, and higher levels of perceived violence.

22

The thrust of this study was to identify types of media consumers, based on exposure to a wide range of mass media content rather than relying on exposure to a single medium (television, newspapers, etc.) or a specific type of content available in several media (news, action/adventure, etc.). The isolation of these mass media types, and their confirmation and modification in subsequent studies, should provide mass communication researchers with clearer directions in their search for mass media effects.

FIGURE 1
MASS MEDIA VARIABLES

TELEVISION

action/adventure
cartoons
comedy
country music/variety
daytime soap operas
game shows
human interest
light dramas
movies
Music Television (MTV)
news & public affairs
prime time soaps
public television
religious
situation comedies
sports
talk shows
other

NEWSPAPERS

advice columns
business & finance
classified ads
comics
crossword puzzles
editorials
entertainment section
international news
local news
national news
obituaries
other advertisements
sports
women's section
other

MAGAZINES

activities & hobbies
adult illustrated
Black
business
celebrity gossip
children's
comic books
female adolescent
humor
hunting & outdoors
male sexual
mass circulation
motor vehicle
music
news magazines
professional journals
religious
science & technology
sports
upscale
women's -
 non-traditional roles
women's trad. roles
other

MOTION PICTURES

action/adventure
art films
children's
comedy
dramatic
E.I. -
 the Extra-Terrestrial
horror
romantic/dramatic comedy
science fiction & fantasy
sex
teen appeal

RECORDINGS

beautiful music
classical
comedy
country
gospel

jazz
New Wave
pop
rock
soul
other

RADIO

Black
country music
middle-of-the-road
public radio
religious

rock
talk

BOOKS

action/adventure
non-fiction
popular novel
romantic novel
other

TABLE 1
MASS MEDIA TYPES AND THEIR DESCRIPTIVE VARIABLES

N=newspapers, TV=television, MP=motion pictures, M=magazines, B=books, R=radio, REC=recordings. Each media content type is underlined. The number to the right of each variable is the z-score representing the strength and the direction of the variable's loading on that type.

ADULTS FACTOR 1		JUNIORS FACTOR 1		7TH GRADERS FACTOR 1	
<u>NEWSPAPER AVOIDERS</u>		<u>CABLE TV WATCHERS/</u> <u>NEWSPAPER AVOIDERS</u>		<u>"FEMALE" READERS</u>	
N-Entertainment	-2.05	TV-Movies	2.26	B-Romantic Novels	3.73
N-Obituaries	-2.07	R-Religious	2.11	B-Popular Novels	3.23
N-Editorials	-2.07	TV-MTV	2.05	MP-Dramatic	2.63
N-Other Ads	-2.17	N-Sports	-2.02	MP-Children's	2.45
N-Internat. News	-2.24	N-Entertainment	-2.07	TV-Sit-Com's	2.14
N-National News	-2.31	N-Local News	-2.12		
N-Local News	-2.66	N-Comics	-2.17		
<u>NEWSPAPER READERS</u>		<u>NEWSPAPER READERS</u>		<u>"MALE"</u> <u>NEWSPAPER READERS</u>	
N-Other Ads	2.23	N-Women's Sect.	2.81	N-National News	2.91
N-National News	2.13	N-Obituaries	2.66	N-Classified Ads	2.66
N-Women's Section	2.08	N-Entertainment	2.37	N-Other Ads	2.61
N-Entertainment	2.04	N-Local News	2.32	N-Sports	2.45
N-Local News	2.04	N-Advice Columns	2.32	N-Local News	2.40
N-Obituaries	2.04	N-Editorials	2.23	N-Internat. News	2.27
N-Advice Columns	2.02	N-National News	2.15	N-Entertainment	2.18
		N-Internat. News	2.13		
		N-Comics	2.08		
ADULTS FACTOR 2		JUNIORS FACTOR 2		7TH GRADERS FACTOR 2	
<u>TALK SHOW FANS</u>		<u>"BLACK" ROMANTICS</u>		<u>ACTION</u> <u>TELEVISION VIEWERS</u>	
TV-Talk	5.11	M-Black	3.63	TV-Action/Adven.	2.65
TV-Game	2.00	TV-P-Time Soaps	2.83	R-Information	2.48
		B-Romance Novels	2.62	TV-Human Interest	2.22
				N-Comics	-2.16
<u>HORROR FILM FANS</u>		<u>PROTOTYPIC</u> <u>ADOLESCENT "MALES"</u>		<u>NEWSPAPER</u> <u>OPINION READERS</u>	
MP-Horror	5.16	N-Classified Ads	3.17	N-Editorials	2.77
MP-E.T.	2.92	M-Motor Vehicle	2.87	N-Advice Columns	2.40
		R-Rock Music	2.37	REC-New Wave	2.25
		R-Total News	2.25	N-National News	2.08
		N-Sports	2.11	N-Local News	2.01

TABLE 1 CONTINUED
MASS MEDIA TYPES AND THEIR DESCRIPTIVE VARIABLES

ADULTS FACTOR 3		JUNIORS FACTOR 3		7TH GRADERS FACTOR 3	
<u>COUNTRY LISTENERS</u>		<u>FILM FANS</u>		<u>COUNTRY RADIO LISTENERS/</u> <u>ACTION AVOIDERS</u>	
REC-Country Music	4.19	MP-Teen	4.19	R-Country Music	2.78
MP-Romance/Comedy	3.14	B-Romance Novels	2.83	MP-Action/Adven.	-2.24
R-MOR	2.91	MP-Horror	2.63	TV-Sit-Com's	-2.35
R-Total News	2.28	MP-Comedy	2.57	TV-Action/Adven.	-2.50
REC-Classical	2.23				
R-Country Music	2.06				
<u>ACTION VIEWERS/READERS</u>		<u>NON-FICTION</u> <u>TELEVISION VIEWERS</u>		<u>TELEVISION VIEWERS</u>	
TV-Comedy	3.57	TV-Talk Shows	3.73	TV-Sports	2.76
B-Action/Adven.	3.30	TV-Sports	3.54	TV-News	2.60
TV-Action/Adven.	3.16	TV-Comedy	3.26	TV-Comedy	2.57
TV-Light Dramas	2.16	TV-News	2.67	TV-Soap Operas	2.48
TV-Cartoons	2.12	TV-Country Music	2.34	TV-Sit-Com's	2.39
ADULTS FACTOR 4		JUNIORS FACTOR 4		7TH GRADERS FACTOR 4	
<u>ENTERTAINMENT WATCHERS</u>		<u>"FEMALE"</u> <u>ADOLESCENT READERS</u>		<u>"MALE" FILM FANS</u>	
TV-Game Shows	3.78	MP-Dramatic	2.95	MP-Sex	3.58
MP-Action/Adven.	2.54	M-Female Adoles.	2.72	MP-Action/Adven.	3.55
MP-Teen	2.44	M-Celeb./Gossip	2.64	MP-Teen	2.37
MP-Sci-Fi & Fant.	2.42	M-News Magazines	2.35	TV-MTV	2.28
MP-Romance/Comedy	2.17	B-Popular Novels	2.04		
<u>SPORTS FANS</u>		<u>ENTERTAINMENT VIEWERS</u>		<u>NON-NEWS READERS</u>	
TV-Sports	3.21	TV-Cartoons	3.36	M-Celeb./Gossip	3.04
N-Sports	2.29	TV-Sit-Com's	3.35	N-Business	2.24
		TV-Soap Operas	2.89	N-Advice Columns	2.23
		TV-Action/Adven.	2.85		
ADULTS FACTOR 5					
<u>NON-FICTION READERS</u>					
B-Non-Fiction	3.77				
M-Upscale	3.08				
REC-Religious	2.44				
<u>TELEVISION VIEWERS</u>					
TV-Movies	3.35				
TV-Country Music	2.91				
TV-Cartoons	2.24				
N-Crosswords	2.08				
TV-Action/Adven.	2.04				

TABLE 2
Regression Analyses

DEPENDENT VARIABLES	INDEPENDENT VARIABLES	R	BETA WEIGHT	SIGNIFICANCE LEVEL
ADULT FACTOR 1 (.000) Newspaper Avoiders vs. Newspaper Readers	Age Household Occupational Prestige	.284 .051	-.575 -.230	.000 .003
ADULT FACTOR 2 (.000) Talk Show Fans vs. Horror Film Fans	Sex Household Occupational Prestige	.166 .056	.382 -.237	.000 .005
ADULT FACTOR 3 (.037) Country Listeners vs. Action Viewers/Readers	Age	.036	.190	.037
ADULT FACTOR 4 (.000) Entertainment Watchers vs. Sports Fans	Sex Household Occupational Prestige	.384 .033	.601 -.183	.000 .011
ADULT FACTOR 5 (.000) Non-Fiction Readers vs. Television Viewers	Education Age Household Size	.178 .062 .033	.473 .205 -.187	.000 .016 .024
JUNIOR FACTOR 1 Cable Television Viewers/Newspaper Avoiders vs. Newspaper Readers	No Significant Variables			
JUNIOR FACTOR 2 (.001) "Black" Romantics vs. Prototypic Adolescent "Males"	Sex Age	.094 .035	.311 -.187	.001 .043
JUNIOR FACTOR 3 (.000) Film Fans vs. Non-Fiction Television Viewers	Sex Household Occupational Prestige	.325 .041	.524 -.207	.000 .011
JUNIOR FACTOR 4 (.000) "Female" Adolescent Readers vs. Entertainment Viewers	Academic Achievement Sex Father's Education	.112 .076 .072	.273 .336 .297	.004 .000 .002

TABLE 2 CONTINUED

DEPENDENT VARIABLES	INDEPENDENT VARIABLES	2 R	BETA WEIGHT	SIGNIFICANCE LEVEL
GRADE 7 FACTOR 1 (.000)	Sex	.152	.430	.000
"Female" Readers vs.	Academic			
"Male" Newspaper	Achievement	.045	-.257	.003
Readers	Mother's			
	Education	.043	.213	.014
GRADE 7 FACTOR 2 (.000)	Sex	.140	-.360	.000
Action Television	Academic			
Viewers vs.	Achievement	.049	-.222	.010
Newspaper Opinion				
Readers				
GRADE 7 FACTOR 3 (.009)	Sex	.042	.211	.022
Country Radio Listeners/	Household			
Action Avoiders vs.	Size	.038	.196	.032
Television Viewers				
GRADE 7 FACTOR 4 (.012)	Sex	.054	-.233	.012
"Male" Film Fans vs.				
Non-News Readers				

Significance levels for the regression equations are in parentheses.
Only significant ($p < .05$) independent variables are included.

NOTES

1. This assumption is a major component of the uses and gratifications approach to mass communication as summarized by Katz, Blumler, and Gurevitch (1974: 20). The uses and gratifications approach is

concerned with (1) the social and psychological origins of (2) needs, which generate (3) expectations of (4) the mass media and other sources, which lead to (5) differential patterns of media exposure (my underline) (or engagement in other activities), resulting in (6) need gratification and (7) other consequences, perhaps mostly unintended ones.

2. It should be noted here that mass media exposure is not the only way in which users of mass media have been typed. The uses and gratifications approach has generated research that classified individuals based on their uses of the mass media (surveillance, entertainment, para-social interaction, etc.). These different expectations of the mass media are assumed to lead to differential patterns of media exposure (See Katz, Blumler, and Gurevitch, 1974). In this study, I was interested in finding the patterns of mass media exposure that are part of the consumer's use of mass media regardless of whether this exposure is motivated by a specific need, or caused by some other source (e.g. the means to use media content, the time of day available for viewing, group influences on media selection).

3. A more detailed version of the method is available elsewhere. (The remainder of this note has been deleted to preserve the anonymity of the author(s). It will be restored in the final draft of the paper.)

4. For the seventh graders, I operationalized academic achievement as the respondent's composite score on the Iowa Tests of Basic Skills. For the juniors, I used the respondent's composite score on the Iowa Tests of Educational Development.

5. Since being a housewife or homemaker is not treated as an occupation on the National Opinion Research Center occupational prestige scale, I assigned it the same numeric value (22) as that of a private household worker. I treated the responses "retired," "unemployed," and "student" as missing data because the previous or future occupation of the person was unknown.

6. For all demographic variables except sex, I replaced missing data with the mean scores for that respondent's age group.

7. In this study, Q-type factor analysis refers to a factor analysis based on a transposed R-type score matrix. Thus, the correlation matrix used in the Q-type factor analysis consists of each respondent's exposure to the mass media variables correlated with every other respondent's exposure to those same variables. In short, Q-type factor analysis involves the correlating of respondents rather than variables.

This use of the "Q" label is consistent with Cattell (1952: 90-92, 1978: 322-329), but conflicts with Stephenson (1953: 47-59, 1967: 13-32). Both Cattell and Stephenson identify factor analytic techniques based on

use of transposed R-type factor scores, but employ different labels to describe this technique. Cattell identifies any factor analysis that uses a transposed R-type score matrix as Q-technique. Stephenson insists that the Q-technique requires the use of a Q-sort of sample statements, not just a transposed R-type score matrix. He labels a transposed R analysis "System 3." Readers more comfortable with Stephenson's approach to Q may read my references to "Q-type factor analysis" as "System 3" or "Transposed R" factor analysis.

8. The QUANAL program (Van Tubergen, 1975) was used to compute the three Q-type factor analyses.

9. I used the SPSS-X statistical package to compute the 13 multiple regression analyses.

10. One hundred one of the adult surveys were completed during the week of October 25 to October 29, 1982, and 20 were completed during the week of January 24 to January 28, 1983.

11. Eight of the 59 Central High School Juniors did not complete the daily diaries for Wednesday and Thursday of the survey week. Since these subjects had completed all other survey materials and since it was desirable to keep as many subjects as possible, these eight subjects were included in the final data analysis. For these subjects, I constructed estimates of weekly media exposure by multiplying each subject's five day totals by 1.4. These changes affected weekly totals for television, radio, recording, newspaper, and magazine content.

12. The results of pretests of 39 respondents conducted during the week of October 11, 1982 were used to modify the survey instrument.

13. Because light dramas, prime time soaps, situation comedies, and action/adventure programs are the most viewed types of entertainment programs on television, extra care was taken in classifying programs into these categories. One faculty member and two graduate students (with special interest in television programming) at a major research university and I classified all of the programs that might be included in any of these categories into one of the four content categories. When the coders disagreed on the classification of a program, the program was placed in the category receiving the highest number of codings.

14. Since news is available on most radio stations, and thus could not be measured using the above procedure, respondents recorded their daily exposure to radio news on a seven point scale: 1=not at all, 2=one time, 3=two times, 4=three times, 5=four times, 6=five times, 7=more than five times.

15. Ulrich's International Periodicals Directory (1983) was consulted to help classify magazine content.

16. For each age group, means, standard deviations, and Ns for the nearly 100 media content and demographic variables are available elsewhere. (The remainder of this note has been deleted to preserve the anonymity of the author(s). It will be restored in the final draft of the paper.)

17. If over 25 percent of the variance in a factor is negative, the QUANAL program splits a factor into two types.

18. Ninety content categories were coded in the study, but six of these categories were "other" categories (other television programs, other magazines, other parts of the newspaper, other books, other recordings, and pop recordings). Since the content in these categories was not of any consistent type, these categories were not used in the factor analyses.

19. For both the junior and seventh grader Q-type factor analyses, the varimax rotation (used to maximize the distinctiveness of the Q-type factors) could not be accomplished for more than four factors.

20. When the word "black," "male," or "female" is used as part of the label assigned to a mass media content type, it refers to patterns of exposure to media content traditionally consumed by these groups, not necessarily the respondents' race or sex.

21. For the adults, the media "content" types included Talk Show Fans, Horror Film Fans, Country Listeners, Action Viewers/Readers, Entertainment Watchers, Sports Fans, and Non-Fiction Readers; for the juniors, "Black" Romantics, Prototypic Adolescent "Males," Non-Fiction Television Viewers, "Female" Adolescent Readers, and Entertainment Viewers; and for the seventh graders, "Female" Readers, Action Television Viewers, Newspaper Opinion Readers, Country Radio Listeners/Action Avoiders, "Male" Film Fans, and Non-News Readers.

For the adults, the media "specific" types included Newspaper Avoiders, Newspaper Readers, and Television Viewers; for the juniors, Cable TV Watchers/Newspaper Avoiders, Newspaper Readers, and Film Fans; and for the seventh graders "Male" Newspaper Readers, and Television Viewers.

22. Data analysis is currently underway to test each of the speculations made here. Items measuring political knowledge, sexism, tendency to use aggression, and perceived violence in society were included in the questionnaire.

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